WEST SANTA ANA BRANCH

Recommend Final Set of Alternatives

April 2011

Purpose and Need

Corridor Study Area described by the following:

- Densely-developed, most active hearts of Los Angeles and Orange counties
- Population density is 3x Orange County and 1.5x Los Angeles County urbanized averages
- Population growth = +500,000 people (FY2035)
- Employment growth = 44% of Orange County jobs and 29% of Los Angeles County jobs

Mobility Problem

Corridor's Mobility Problem described in terms of:

- Transit system constraints – lacks system connections both within and beyond the Corridor
- Freeway and arterial congestion – today and in future, majority of Corridor's highway system operates at or beyond capacity during both peak travel periods
- Limited travel options – 92 to 96 percent of work trips are currently made by automobile, and will be in the future

Study Goals

Stakeholders/public told us:

- Make it a desirable solution for us to use
- Provide new travel option that connects to regional transit system
- Increase access to our destinations/activity centers
- Serve both community and regional trips
- Provide fast travel speed
- Select cost-effective solution
- Support local economic development/revitalization opportunities
- Minimize environmental impacts on adjacent communities

Initial Screening Criteria

Initial Set of Alternatives evaluated based on:

- Public and Stakeholder Input/Support
- Mobility Improvements including ridership and travel speed
- Support for development/revitalization plans
- Environmental Impacts
- Engineering and Operating Viability
- Cost/Conceptual Cost Per Rider

Initial Set of Alternatives

Alternatives studied during Initial Screening:

- Bus Rapid Transit (BRT)
- Street Car
- Light Rail Transit (LRT)
- Multiple Unit/Sprinter
- Conventional High Speed Rail
- Maglev High Speed Service

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Bus Rapid Transit Alternative

Trips	Serves regional and local trips
Speed	Street-running (10-14 mph) HOV (25-35 mph)
Station Spacing	0.5-1.0 mile between stations
Land Use Plans	Support for development/revitalization plans proven internationally (Canada, Australia)

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Urban Rail Alternatives

Trips	Serves regional and local trips
Speed	Provides a low to medium speed: 8.5 - 15 mph (Streetcar); 25-35 mph (LRT); 25-55 mph (DMU)
Station Spacing	0.2-0.5 miles between stops (Streetcar) 1.0-1.5 miles (LRT); 1.5-3.0 miles (DMU)
Land Use Plans	Demonstrated support for development/revitalization plans

High Speed Service Alternatives

Trips	Serves regional trips
Speed	Provides high speed of 110-220 mph
Station Spacing	10-20 miles between stations
Land Use Plans	Demonstrated support for high density development nationally (Conventional) and internationally (Conventional & Maglev)

Final Set of Alternatives

Recommended Final Set of Alternatives for further study will include:

- ✓ No Build Alternative
- ✓ Transportation System Management (TSM) Alternative
- ✓ 2-3 Build Alternatives

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Initial Screening Summary

		BRT	Street Car	LRT	DMU	Conv. (HSS)	Maglev (HSS)
Serves:	Local trips	✓	✓	✓	✓		
	Regional trips	TBD	TBD	✓	✓	✓	✓
Speed	At-grade	10-14	8.5-15	25-35	25-35	--	--
	Grade-separated ROW	25-35	25-40	45-55	45-55	110-220+	140-270+
Provides support for local plans		TBD	✓	✓	*	*	*
Requires Property Acquisition[1]		0	0	10+	10+	125+	125+
Has Air Quality Benefits		Yes	Yes	Yes	No[2]	Yes	Yes
Fit with local system plans		✓	✓	✓	No	No	No
Has State and Federal Approved:	Vehicles	✓	State in Process	✓	✓	✓	Not Yet
	System	✓	✓	✓	✓	✓	
Conceptual Ridership		19,200-32,400	26,000-39,000	26,000-57,600	26,000 - 57,600	2,400-4,800	2,400-4,800
Conceptual Cost to Build (At-grade-Above-grade costs, $2010, billions)		$0.6-2.2	$1.3-4.0	$1.6-4.2	$1.2-4.1	$4.9[3]	$5.9[3]
Conceptual Annual Cost Per Rider		$20-50	$10-40	$10-50	$10-50	$460-920	$580-1,150

*Proven nationally and/ or internationally
[1]Does not include storage/maintenance yard-related acquisition; too early in process to identify
[2]Some regional benefits
[3]Above-grade cost only; does not operate at-grade

TAC Recommendation

Alternatives not recommended for further study:

Multiple Unit/Sprinter

Challenges:

- Community Support
- Air Quality
- System Fit

High Speed Service

- Conventional High Speed Rail
- Maglev High Speed Service

Challenges:

- Community Support
- Requires Major Acquisition
- System Fit
- Primarily Regional Trips
- Costs/Annual Cost per rider
- Funding Availability

TAC Recommendation

Initial Set of Alternatives recommended for further study:

- Bus Rapid Transit
- Street Car
- Light Rail Transit

With Steering Committee direction:

- Low Speed Maglev